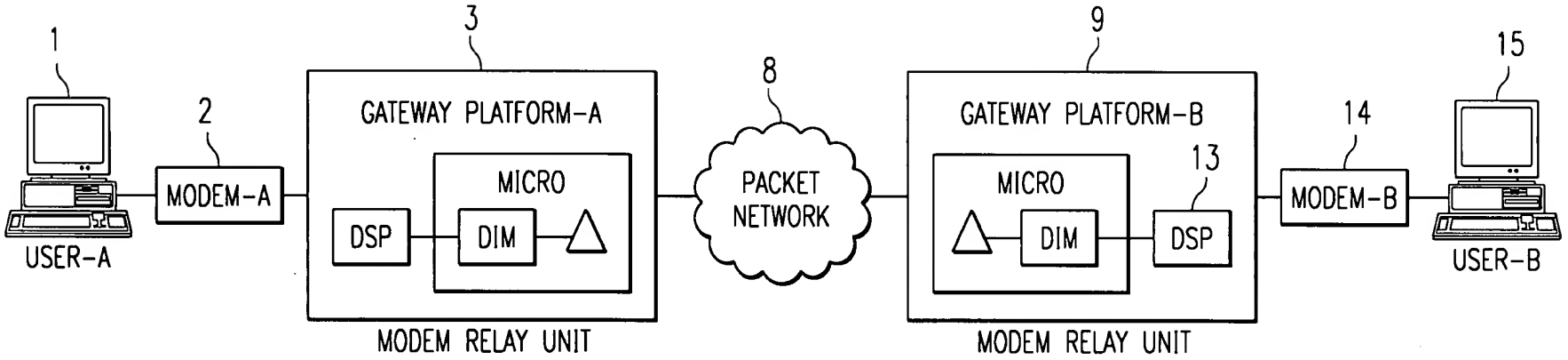

1
2
3
8
9
13
14
15
GATEWAY PLATFORM-A
MICRO
DSP
DIM
PACKET NETWORK
GATEWAY PLATFORM-B
MICRO
DIM
DSP
MODEM-A
MODEM-B
USER-A
USER-B
MODEM RELAY UNIT
MODEM RELAY UNIT

FIG. 1

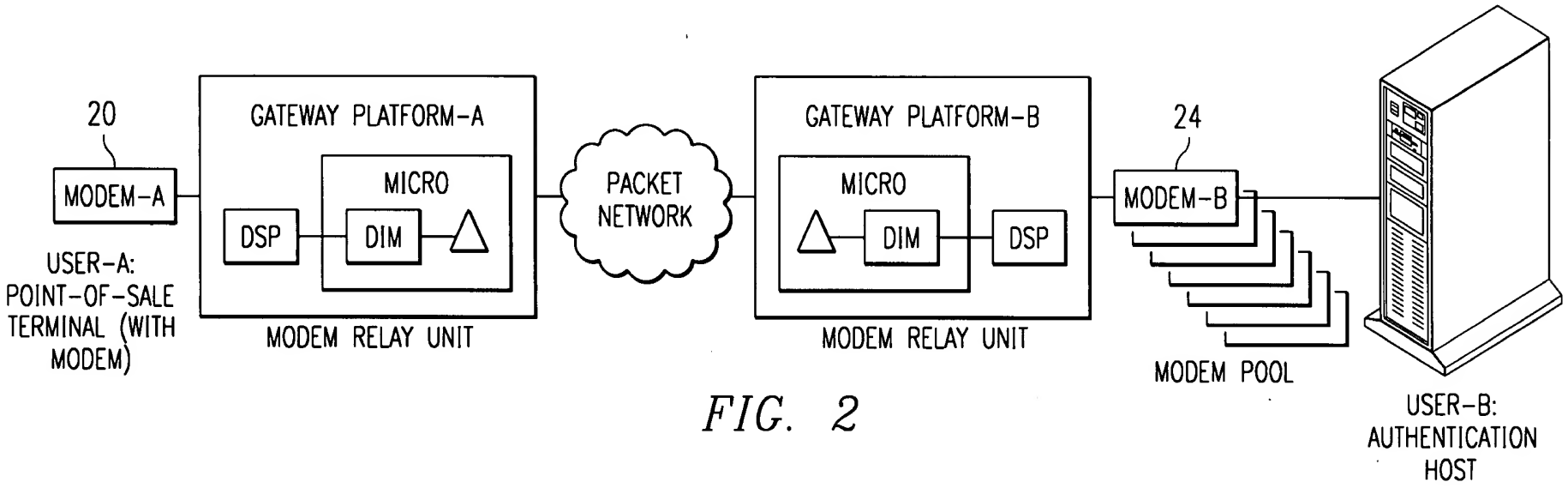

20
24
GATEWAY PLATFORM-A
MICRO
DSP
DIM
PACKET NETWORK
GATEWAY PLATFORM-B
MICRO
DIM
DSP
MODEM-A
MODEM-B
USER-A:
POINT-OF-SALE
TERMINAL (WITH
MODEM)
MODEM RELAY UNIT
MODEM RELAY UNIT
MODEM POOL
USER-B:
AUTHENTICATION
HOST

FIG. 2

FIG. 3

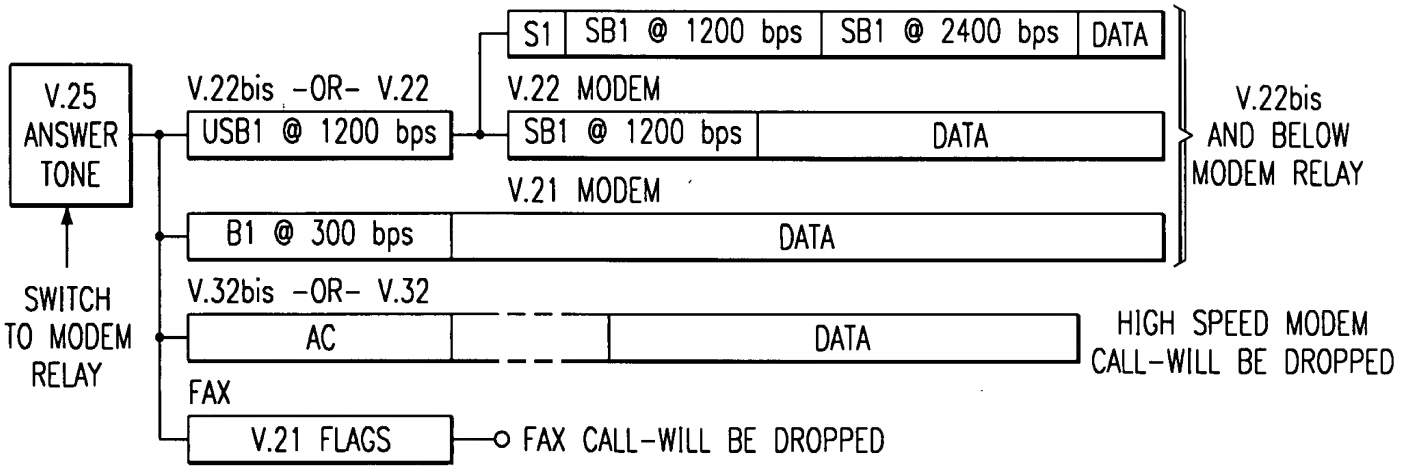
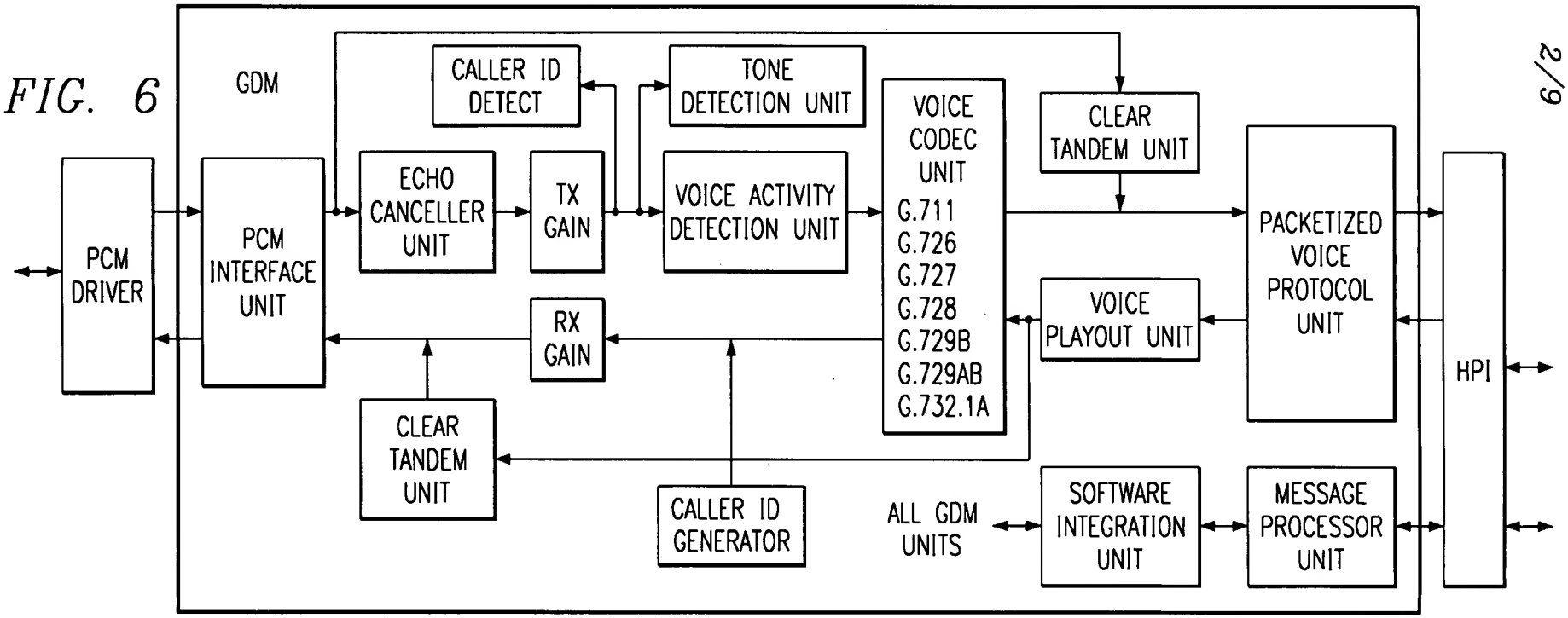

V.25 ANSWER TONE
SWITCH TO MODEM RELAY
V.22bis -OR- V.22
USB1 @ 1200 bps
S1
SB1 @ 1200 bps
SB1 @ 2400 bps
DATA
V.22 MODEM
SB1 @ 1200 bps
DATA
V.22bis AND BELOW MODEM RELAY
V.21 MODEM
B1 @ 300 bps
DATA
V.32bis -OR- V.32
AC
DATA
HIGH SPEED MODEM CALL-WILL BE DROPPED
FAX
V.21 FLAGS
FAX CALL-WILL BE DROPPED

FIG. 6


GDM
CALLER ID DETECT
TONE DETECTION UNIT
VOICE CODEC UNIT
G.711
G.726
G.727
G.728
G.729B
G.729AB
G.732.1A
CLEAR TANDEM UNIT
PCM DRIVER
PCM INTERFACE UNIT
ECHO CANCELLER UNIT
TX GAIN
VOICE ACTIVITY DETECTION UNIT
PACKETIZED VOICE PROTOCOL UNIT
RX GAIN
VOICE PLAYOUT UNIT
HPI
CLEAR TANDEM UNIT
CALLER ID GENERATOR
ALL GDM UNITS
SOFTWARE INTEGRATION UNIT
MESSAGE PROCESSOR UNIT

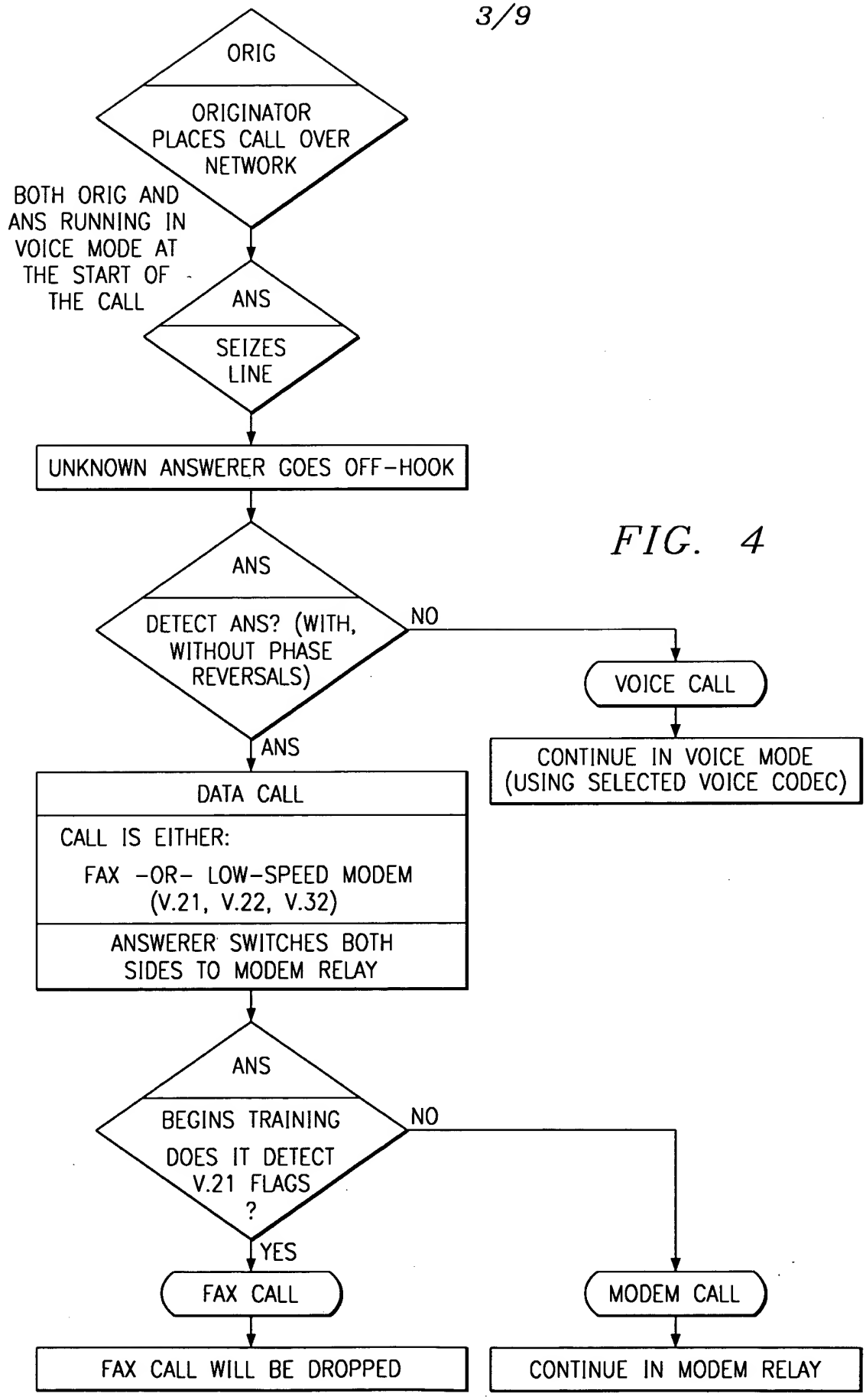


FIG. 4

Patent Application Publication

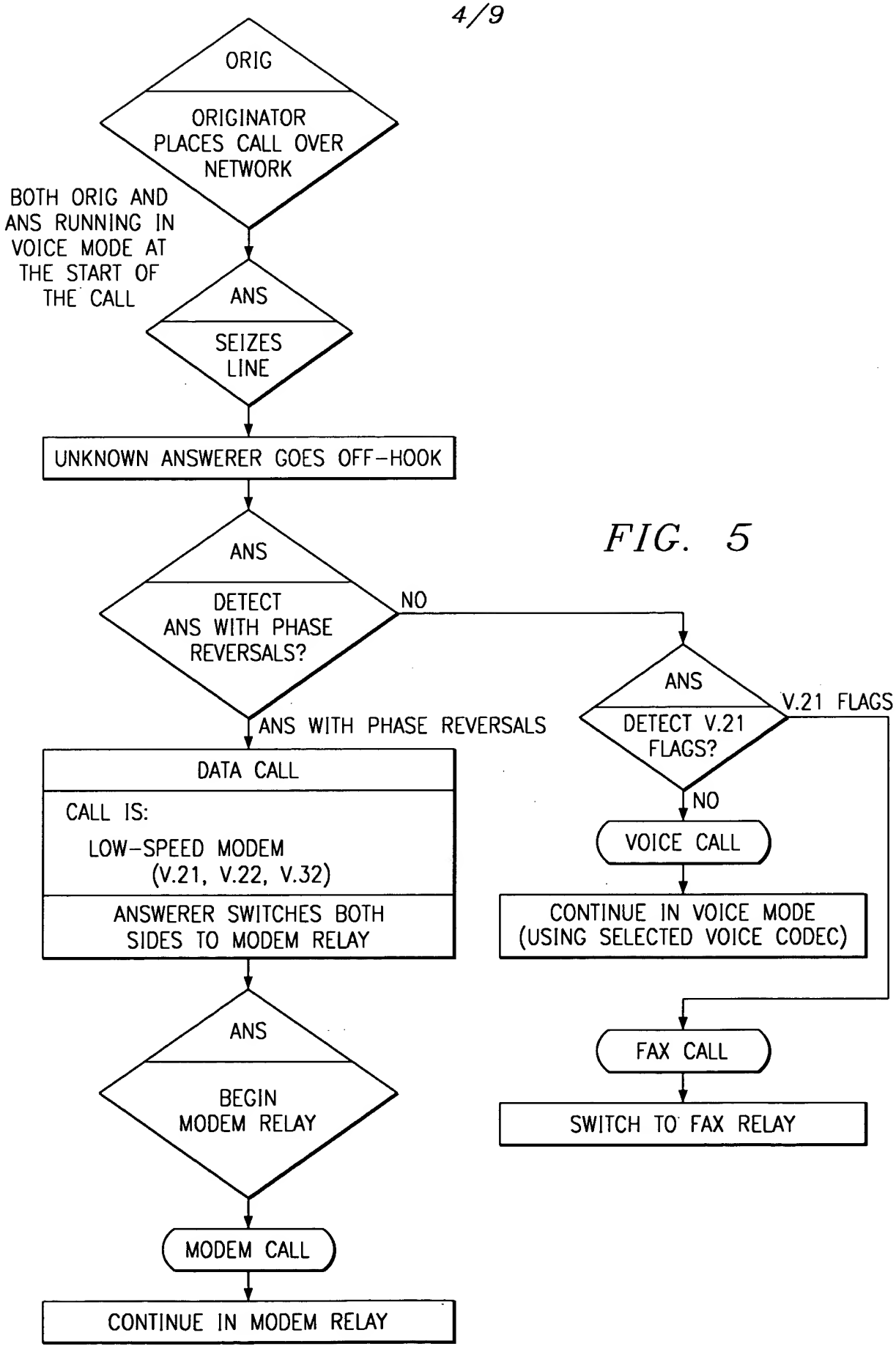


FIG. 5

EP 0 950 305 B1

FIG. 7

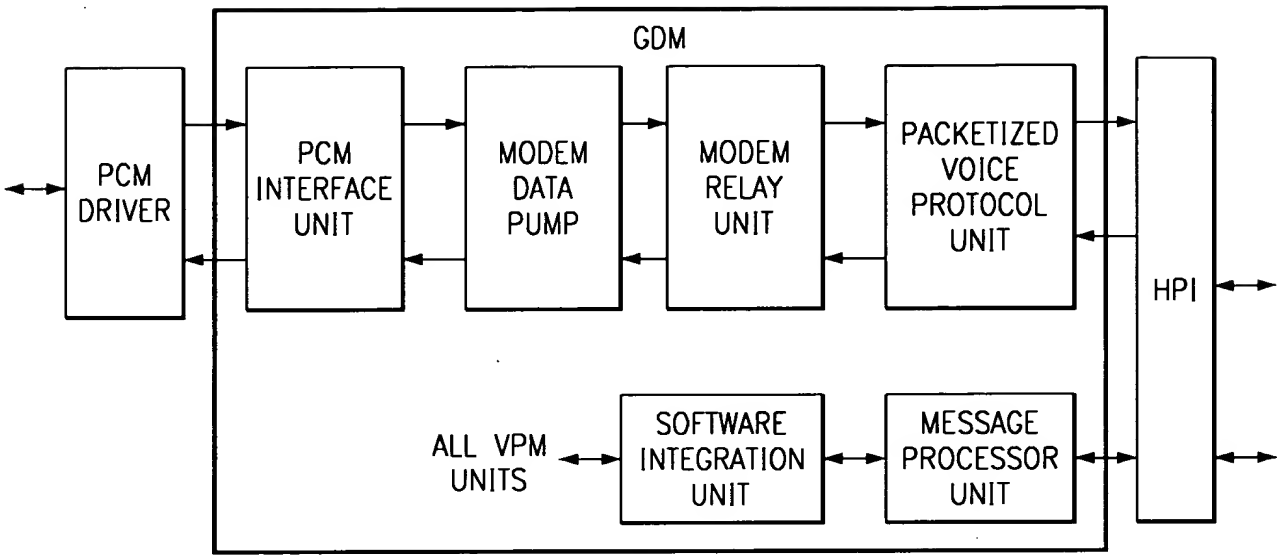
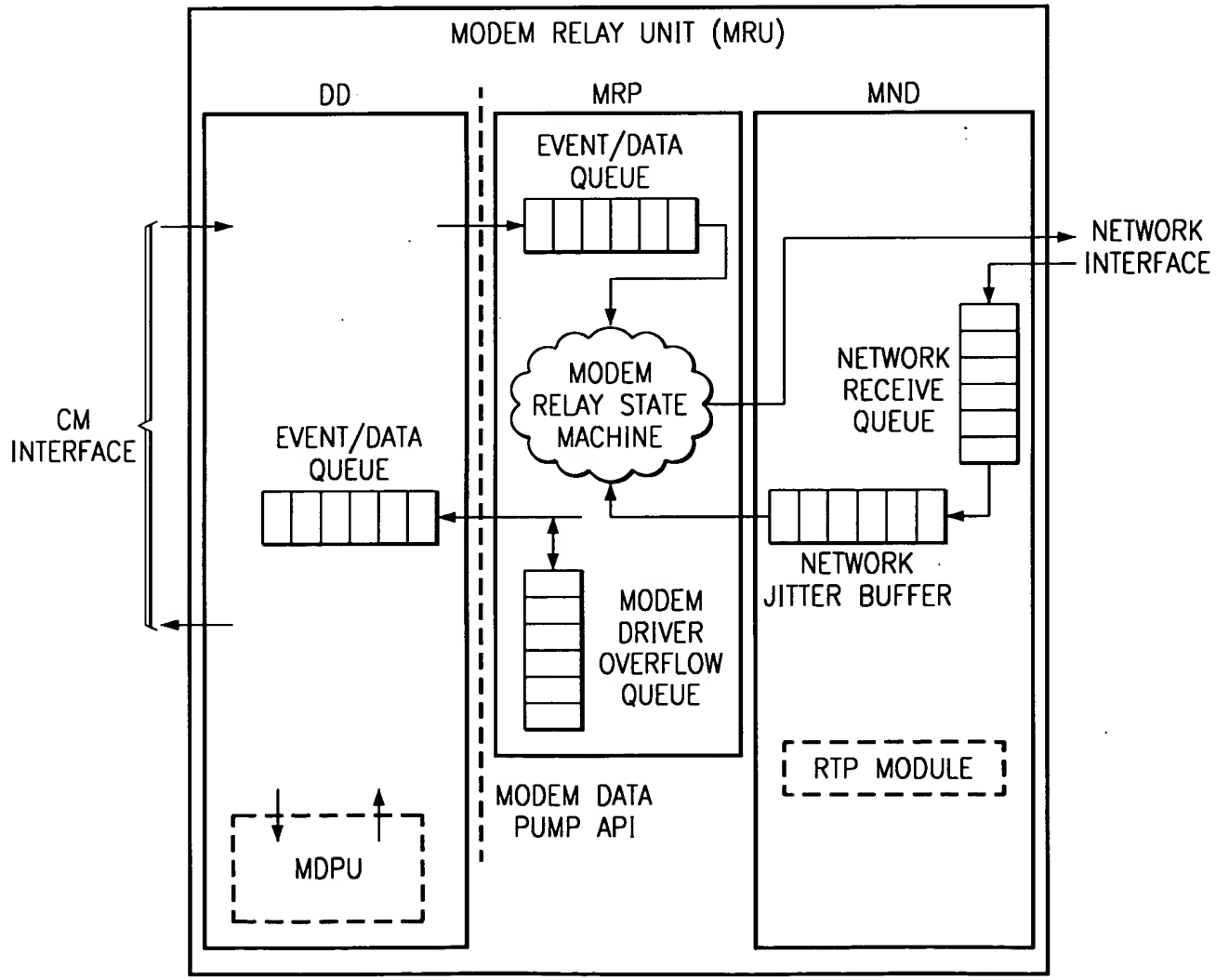


FIG. 8



09502865 "04504

TO3TH0 "9205260

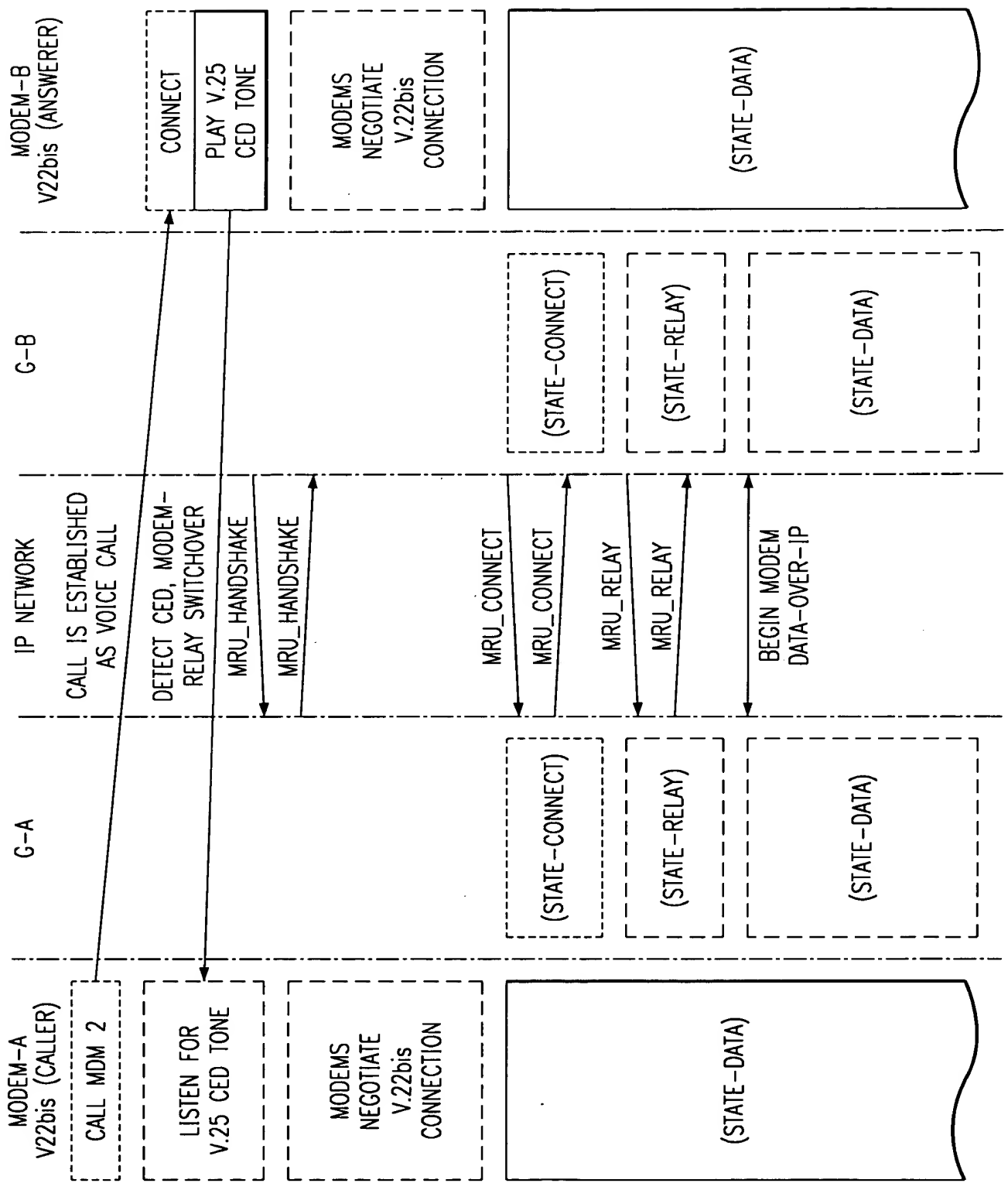


FIG. 9

FIG. 10

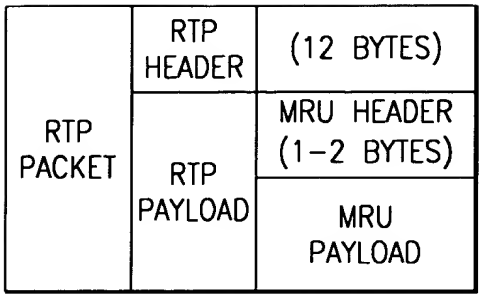
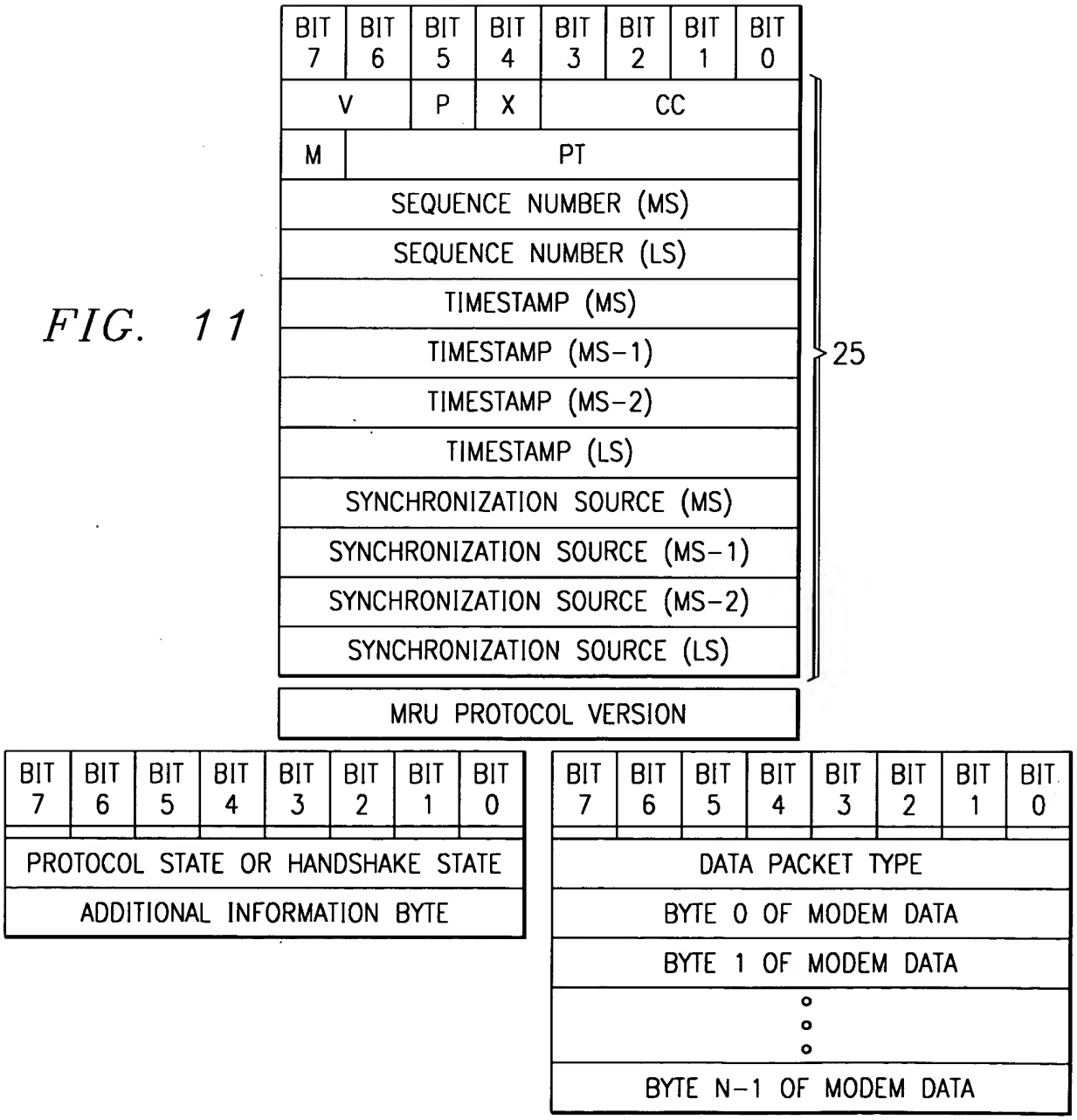


FIG. 11



09/502,565 - 04/04/00

MODEM RELAY PROTOCOL STATE PACKETS

PROTOCOL STATE	DESCRIPTION
OFFLINE	IDLE STATE
CARRIER LOSS	SILENCE ON THE ANALOG LINE, CARRIER LOSS
HANDSHAKE	MODEM DATA PUMPS WILL BEGIN HANDSHAKING PROCESS
CONNECT	LOCAL HANDSHAKE SESSION IS PASSED AND READY FOR MODEM RELAY
RELAY	MODEM RELAY TAKES PLACE

MODEM HANDSHAKE STATE PACKETS

HANDSHAKE STATE	DESCRIPTION
V25	V.25 ANSWER TONE IS DETECTED ON THE LOCAL ANALOG LINE
V25PR	V.25 ANSWER TONE WITH PHASE REVERSALS IS DETECTED ON THE LOCAL ANALOG LINE
V21	V.21 B1 SIGNAL IS DETECTED ON THE LOCAL ANALOG LINE
USB1	V.22 USB1 SIGNAL IS DETECTED ON THE LOCAL ANALOG LINE
S1	V.22bis S1 SIGNAL IS DETECTED ON THE LOCAL ANALOG LINE
SB1_1200	V.22bis SB1 SIGNAL @ 1200 IS DETECTED ON THE LOCAL ANALOG LINE
SB1_2400	V.22bis SB1 SIGNAL @ 2400 IS DETECTED ON THE LOCAL ANALOG LINE

MODEM DATA PACKETS

DATA TYPE	DESCRIPTION
V21	V.21 DATA @ 300 bps
V22	V.22 DATA @ 1200 bps
V22BIS	V.22bis DATA @ 2400bps

FIG. 12

FIG. 13

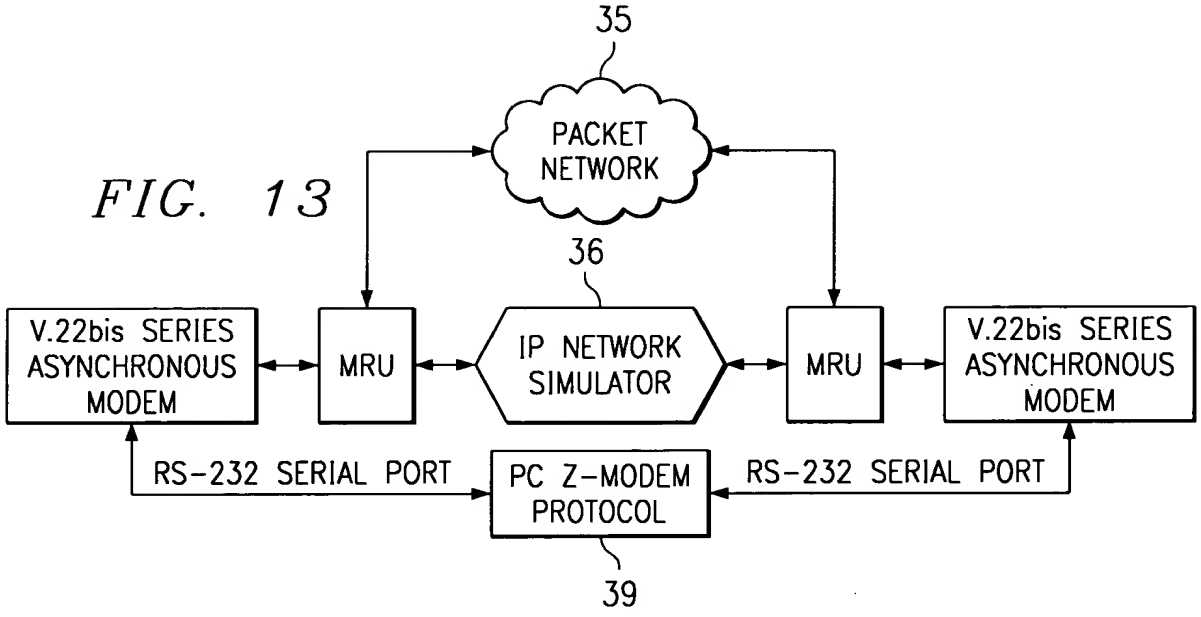
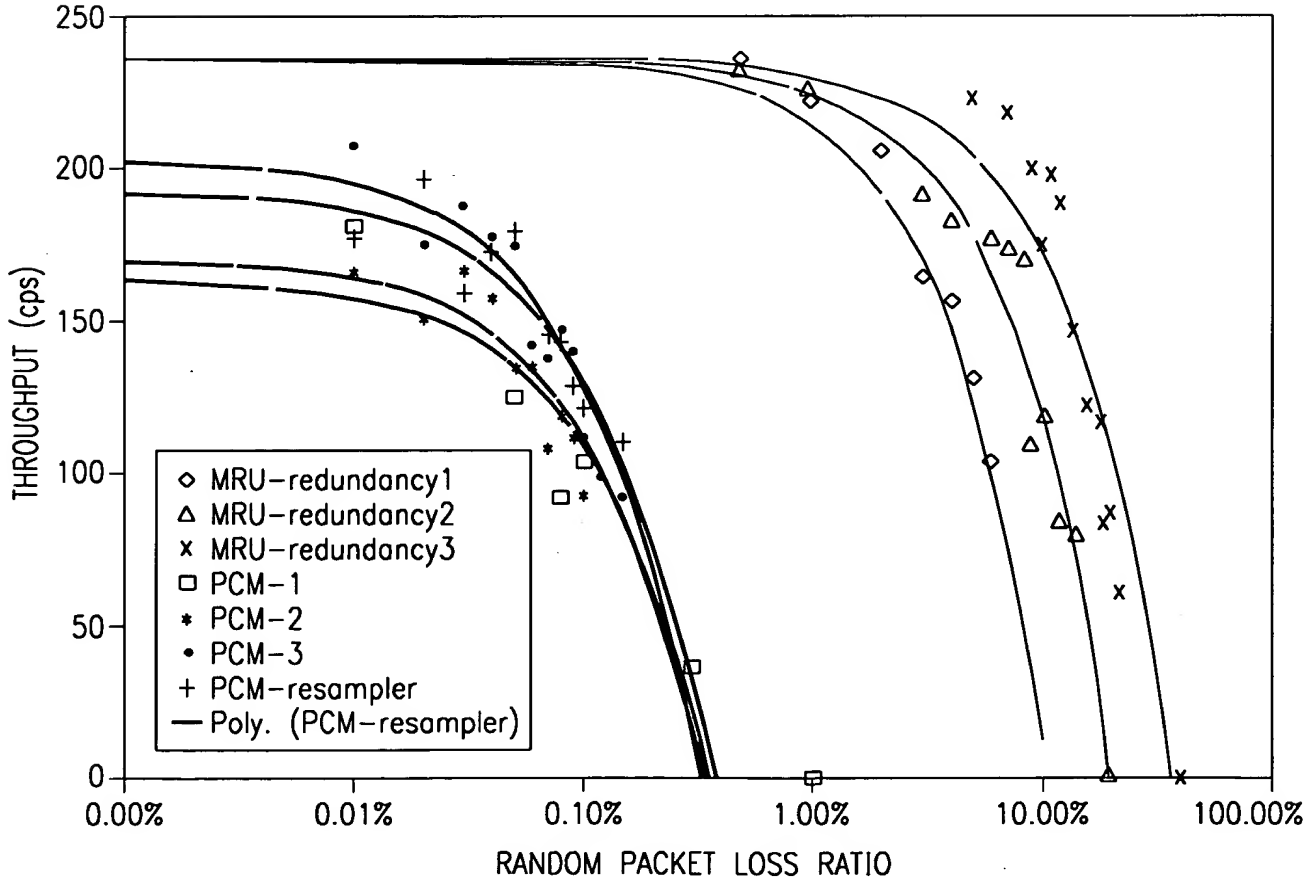


FIG. 14



EP 1 596 560 A1